PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE RALEIGH NC
700 AM EDT THU JUN 26 2008

SAFE SHELTERS AND INDOOR SAFETY

A house or other substantial building offers the best protection from lightning. In assessing the safety provided by a particular structure, it is more important to consider what happens if the structure gets struck by lightning, rather than whether the structure will be hit by lightning. For a shelter to provide protection from lightning, it must contain a mechanism for conducting the electrical current from the point of contact to the ground. These mechanisms may be on the outside of the structure, may be contained within the walls of the structure, or may be a combination of the two. On the outside, lightning can travel along the outer shell of the building or may follow metal gutters and downspouts to the ground. Inside a structure, lightning can follow conductors such as the electrical wiring, plumbing, and telephone lines to the ground.

Unless specifically designed to be lightning safe, small structures do little, if anything, to protect occupants from lightning. Many small open shelters on athletic fields, golf courses, parks, roadside picnic areas, schoolyards and elsewhere are designed to protect people from rain and sun, but not lightning. A shelter that does not contain plumbing or wiring throughout, or some other mechanism for grounding from the roof to ground is not safe. Small wooden, vinyl, or metal sheds offer little or no protection from lightning and should be avoided during thunderstorms.

There are three main ways lightning enters homes and buildings: (1) a direct strike, (2) through wires or pipes that extend outside the structure, and (3) through the ground. Regardless of the method of entrance, once in a structure, the lightning can travel through the electrical, phone, plumbing, and radio/television reception systems. Lightning can also travel through any metal wires or bars in concrete walls or flooring.

Phone use is the leading cause of indoor lightning injuries in the United States. Lightning can travel long distances in both phone and electrical wires, particularly in rural areas. Stay away from windows and doors as these can provide the path for a direct strike to enter a home. Do not lie on the concrete floor of a garage as it likely contains a wire mesh. In general, basements are a safe place to go during thunderstorms. However, there are some things to keep in mind. Avoid contact with concrete walls which may contain metal reinforcing bars. Avoid washers and dryers since they not only have contacts with the plumbing and electrical systems, but also contain an electrical path to the outside through the dryer vent.

Lightning also causes significant damage to personal property each year. In addition to direct strikes, lightning generates electrical surges that can damage electronic equipment some distance from the actual strike. To the extent possible, unplug any appliances or electronic equipment from all conductors well before a thunderstorm

threatens. And, don't forget to disconnect televisions or radios from outdoor antennas! If you plan to be away from your home when thunderstorms are possible, be sure to unplug unneeded equipment before you leave.

Summary of Lightning Safety Tips for Inside the Home

1. Avoid contact with corded phones
2. Avoid contact with electrical equipment or cords. If you plan to unplug any electronic equipment, do so well before the storm arrives.
3. Avoid contact with plumbing. Do not wash your hands, do not take a shower, do not wash dishes, and do not do laundry.
4. Stay away from windows and doors, and stay off porches.
5. Do not lie on concrete floors and do not lean against concrete walls.

LIGHTNING FACT FOR THE DAY: The average flash of lightning contains enough electricity to light a 100 watt light bulb for more than 3 months.

LIGHTNING QUESTION OF THE DAY: Is it safe to talk on a cordless phone during a thunderstorm.

ANSWER: Compared to talking on standard phone (corded), the cordless phone is much less of a hazard. However, there is the risk of being struck by lightning during the moment of contact when the phone is being removed from the cradle. In addition, the phone should only be used in a safe place; the phone's antenna presents an increased hazard if used outside, near a window, or near electrical conductors in the home.

For additional information about lightning or lightning safety, visit NOAA's Lightning Safety Awareness web site at:

http://www.lightningsafety.noaa.gov